

Pranav Minasandra, Ph.D.

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Interests	Novel and generally applicable theories of behaviour in animals; methods to explore behavioural dynamics. I am particularly interested in the dynamics of behaviour at the intersection of multiple timescales, and the <i>behavioural algorithms</i> used by animals to express individual, collective, and social behaviour.	
Employment	Max Planck Institute of Animal Behaviour, Konstanz, Germany Postdoctoral researcher; IMPRS-QBEE Postdoc Awardee.	2024 - now
Education	Max Planck Institute of Animal Behaviour, Konstanz, Germany PhD [Dr. rer nat] <i>magna cum laude</i> - International Max Planck Research School of Quantitative Behaviour, Ecology, and Evolution. Thesis: “Exploring sequences of behaviour across scales and species.”	2020 - 2024
	Indian Institute of Science (IISc), Bengaluru, India - Master of Science in Biology - Bachelor of Science (Research) in Biology	2015 - 2020
Publications	Peer-reviewed publications <ol style="list-style-type: none">Gall, G. E. C., Demartsev, V., Minasandra, P., Baldoni, C., Cain, K. & Quinn, J. S. Examining combinatoriality within the pūkeko vocal repertoire. <i>Animal Behaviour</i> (2025, in press).Minasandra, P., Grout, E. M., Brock, K., Crofoot, M. C., Demartsev, V., Gersick, A. S., Hirsch, B. T., Holekamp, K. E., Johnson-Ulrich, L., Nayak, A., <i>et al.</i> Behavioral sequences across multiple animal species in the wild share common structural features. <i>PNAS</i> 122. e2503962122. doi:10.1073/pnas.2503962122 (2025). [Press coverage].DeNicola, V., Mezzini, S., Bursac, P., Minasandra, P. & Cagnacci, F. Effects of vasectomy on breeding-related movement and activity in free-ranging white-tailed deer. <i>Movement Ecology</i>. doi:10.1186/s40462-025-00554-5 (2025).Grout, E. M., Ortega, J., Minasandra, P., Quin, M. J., Crofoot, M. C., Strandburg-Peshkin, A. & Hirsch, B. T. Whole Group Tracking Reveals That Relatedness Drives Consistent Subgrouping Patterns in White-Nosed Coatis. <i>Animal Behaviour</i> 216. 175–193. ISSN: 0003-3472. doi:10.1016/j.anbehav.2024.08.010 (2024).Minasandra, P., Jensen, F. H., Gersick, A. S., Holekamp, K. E., Strauss, E. D. & Strandburg-Peshkin, A. Accelerometer-based predictions of behaviour elucidate factors affecting the daily activity patterns of spotted hyenas. <i>Royal Society Open Science</i> 10. 230750. doi:10.1098/rsos.230750 (2023).Kunjar, S., Strandburg-Peshkin, A., Giese, H., Minasandra, P., Sarkar, S., Jolly, M. K. & Gradwohl, N. Link updating strategies influence consensus decisions as a function of the direction of communication. <i>Royal Society Open Science</i> 10. 230215. doi:10.1098/rsos.230215.Minasandra, P. & Isvaran, K. Truncated power-law distribution of group sizes in antelope. <i>Behaviour</i> 157. 541–558. doi:10.1163/1568539X-bja10012 (2020).	

Pre-prints and work in-prep

8. **Minasandra, P.** Anticipating others' future behaviours alters collective movement and enhances survival. *bioRxiv* **122**. 2025–08. doi:[10.1101/2025.08.14.670290](https://doi.org/10.1101/2025.08.14.670290) (2025). [pre-print].
9. **Minasandra, P.**, Planas-Sitjà, I., Roche, D. & Sridhar, V. H. TracktorLive: a real-time multi-object tracking and response delivery package. [Software available on [GitHub](#)].
10. **Minasandra, P.**, Demartsev, V., Johnson-Ulrich, L., Manser, M. & Strandburg-Peshkin, A. Spatiotemporal interplay of vigilance, movement, and collective behaviour in groups of meerkats. [Ch. 3 of Dissertation, available [online](#)].
11. Grout, E. M., C, H. C., **Minasandra, P.**, Thomas, M., Ashbury, A. M., Ortega, J., Crofoot, M. C., Hirsch, B. T. & Strandburg-Peshkin, A. The vocal repertoire of white-nosed coatis: structural features, temporal dynamics, and social variations.

Awards and fellowships

University of Konstanz—Best Paper Award Chosen from among several nominations. [200 €]	2025
IMPRS Postdoctoral Award 6 months of pay at the scale of a postdoctoral researcher. [32,350 €]	2024-2025
ISBE Travel Award 2500 AUD [≈1,500 €].	2024
DAAD - Graduate Student Scholarship Programme Nominated after evaluation of my proposal. [≈60,000€]	2020 - 2024
Kishore Vaigyanik Protsahan Yojana Govt. of India scholarship for exceptional undergraduates in science. <i>All India Rank : 135</i> Included stipend and contingency	2015 - 2020

Mentorship

Amlan Nayak <i>Master's thesis:</i> Spatial variation of vigilance in meerkats.
Ananya Passi <i>Summer research:</i> Mathematical modelling of habitat use and population dynamics.

Teaching

Introduction to Git <i>Instructor and organiser:</i> Biannual workshop offered at the MPI of Animal Behavior.	
Introduction to remote code servers like GitHub <i>Instructor and organiser:</i> Biannual workshop offered at the MPI of Animal Behavior.	
L^AT_EX for academic documents <i>Instructor and organiser:</i> Annual workshop offered at the MPI of Animal Behavior.	
Quantitative Ecology: Research Design and Inference <i>Teaching assistant:</i> Taught coding in R, conducted several classes, graded assignments, managed course website.	2019

Talks and posters

[Invited] CES Seminar Series <i>Indian Institute of Science, Bangalore</i> “Exploring sequences of behaviour in the wild across scales and species”	2024
International Society of Behavioural Ecology Meeting <i>Melbourne, Australia</i> “Sequences of behaviour show a common statistical structure across species”	2024
Gesellschaft für Primatologie Annual Conference <i>Konstanz, Germany</i>	2024

“How animals behave: Sequences of behavior show a common statistical structure across species”

Descriptive & Normative Models of Collective Behaviour

2022

School of Mathematics, University of Leeds

“Looking into hyena daily activity patterns using accelerometers”

Animal Behaviour Society - Virtual Seminar 2021

2021

“Behavioural classifier provides insights into spotted hyena behaviour”

**Technical
skills**

Programming languages and related

Python, Julia, R, Bash, L^AT_EX, and C. HTML, CSS, and git.

Specialised computational skills

Machine learning; Parallel processing and Inter-Process Communication; Agent-based models; Analysis of complex multivariate time-series data.

Mathematical modelling

Dynamical (PDE) models incorporating spatial and stochastic variables; Probability models; Numerical simulations of all the above.

**Other
academic
services**

Reviewing

PLOS One; Integrative and Comparative Biology; Animal Behaviour.

Representation

Postdoc representative at the Max Planck Institute of Animal Behaviour.

2024 - 2025

References

Dr Ariana Strandburg-Peshkin,
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Dr Kavita Isvaran,
Indian Institute of Science
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Dr Andrew Berdahl,
University of Washington
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Prof Meg Crofoot,
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